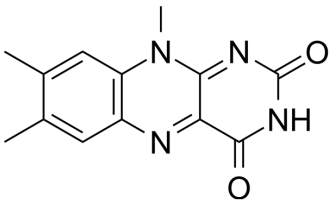
Lumiflavin

Cat. No.:	HY-121608
CAS No.:	1088-56-8
Molecular Formula:	$C_{13}H_{12}N_4O_2$
Molecular Weight:	256.26
Target:	Fluorescent Dye; Notch
Pathway:	Others; Neuronal Signaling; Stem Cell/Wnt
Storage:	4°C, protect from light * In solvent : -80°C, 6 months; -20°C, 1 month (protect from light)



SOLVENT & SOLUBILITY

In Vitro

0.1 M NaOH : 10 mg/mL (39.02 mM; Need ultrasonic)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	3.9023 mL	19.5114 mL	39.0229 mL
5 mM	0.7805 mL	3.9023 mL	7.8046 mL
10 mM	0.3902 mL	1.9511 mL	3.9023 mL

Please refer to the solubility information to select the appropriate solvent.

BIOLOGICAL ACTIVITY

Description

Lumiflavin (Lumiflavine), a riboflavine analog, causes significant inhibition of riboflavine uptake. Lumiflavin can effectively reduce the riboflavin enrichment in cancer stem-like cells (CSCs) and sensitize the effect of cisplatin Diamminedichloroplatinum (DDP) on CSCs. Lumiflavin is promising for research of ovarian cancer[1][2][3].

In Vitro

Lumiflavin (10-40 μM, 48 h) has synergistic effects with Diamminedichloroplatinum (DDP) (20 μM, 48 h) on CSCs in increasing mitochondrial function damage and apoptosis rates and decreasing clonic function[2].

Lumiflavin (0-80 μM, 72 h) reduces the formation of drug resistance and proportion of CSCs, increases CSCs/DDP apoptosis rate and reduces cell clone formation ability in ovarian cancer cell line OVCAR-3[3].

Lumiflavin (80 μM, 72 h) downregulates the protein expression of Notch signaling pathway in CSCs/DDP[3].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Viability Assay[3]

Cell Line:	OVCAR-3
Concentration:	0-80 μM
Incubation Time:	72 h

Result:	Reduced the drug resistance of OVCAR-3/DDP cells significantly.

Western Blot Analysis[3]

Cell Line:	CSCs/DDP
Concentration:	80 μM
Incubation Time:	72 h
Result:	Increased Notch-1, Notch-2, Notch-3, and Notch ligands, just as Jag1, 2 and Dll 1, 3, 4, whereas the expressions of Notch-1, Notch-2, Notch-3 and Jag1, 2 and Dll 3 were downregulated.

In Vivo

Lumiflavin (8 mg/kg, i.p., once a day for 25 days) has a synergistic cytotoxic effect on an ovarian cancer nude mice model by enhancing the DNA□damage response and increasing the apoptotic protein expression[2].
Lumiflavin (4-16 mg/kg, s.c., once a day for 25 days) combined with DDP reduces tumor weight and inhibits tumor growth[3].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Nude mice[3]
Dosage:	4-16 mg/kg
Administration:	s.c., once a day for 25 days
Result:	Reduced tumor weight and inhibited tumor growth curve combined with DDP in a dose-dependent manner.

REFERENCES

[1]. Yang R, et al. Lumiflavin increases the sensitivity of ovarian cancer stem-like cells to cisplatin by interfering with riboflavin. J Cell Mol Med. 2019 Aug;23(8):5329-5339.

[2]. Yang R, et al. Lumiflavin Reduces Cisplatin Resistance in Cancer Stem-Like Cells of OVCAR-3 Cell Line by Inducing Differentiation. Front Oncol. 2022 May 20;12:859275.

[3]. H M Said, et al. Mechanism of riboflavine uptake by Caco-2 human intestinal epithelial cells. Am J Physiol. 1994 Jan;266(1 Pt 1):G15-21.

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA